

WHAT IS CLAIMED IS:

1. A process for forming a flexible noise attenuating cutting line for use in rotary vegetation trimmers comprised of at least two monofilament polymer strands bonded together in a twisted disposition, said process comprising the following steps: extruding a pair of molten monofilament strands in proximate disposition through a die; rotating said die during said extruding step to twist said strands together about a central longitudinal axis; directing said molten strands in a twisted disposition into a cooling quench bath; and pulling said twisted strands through the bath to effect crystallization and bonding together of the two strands.
  
2. A process for forming a flexible noise attenuating cutting line for use in rotary vegetation trimmers comprised of at least two monofilament polymer strands bonded together in a twisted disposition, said process comprising the following steps: extruding a pair of molten monofilament strands in proximate disposition through a die; rotating said die during said extruding step to twist said strands together about a central longitudinal axis; directing said molten strands in a twisted disposition into a cooling quench bath; pulling said twisted strands through the bath to effect crystallization and bonding together of the two strands; concurrently stretching and heating the pair of bonded strands; and then heating the pair of bonded strands in a relaxed disposition.

3. The process of claim 1 wherein during said extrusion step, said die is rotated at speeds from about 750 to 2,500 rpm.

4. The process of claim 2 wherein during said extrusion step, said die is rotated at speeds from about 750 to 2,500 rpm.

5. The process of claim 2 wherein during said extrusion step, said die is rotated at a speed sufficient to impart from approximately 45 to 80 twists per foot in said molten strands and wherein said stretching and heating step comprises pulling said strands from a quench bath at a first velocity, directing said strands from said quench bath to a heated oven and pulling said strands through said oven at a second velocity, said second velocity being sufficiently greater than said first velocity so as to reduce the number of twists in the bonded strands in said line to about 15 to 25 twists per linear foot.

6. A process for concurrently forming a plurality of lengths of noise attenuating cutting line for use in rotary vegetation trimmers wherein each length of line is comprised of at least two monofilament polymer strands bonded together in a twisted disposition, said process comprising the following steps: concurrently extruding a plurality of pairs of molten monofilament strands in proximate disposition through a corresponding plurality of individual dies; rotating said dies during said extruding step to twist together the strands in each of said pairs of strands about a central axis; directing said pairs of molten twisted strands into a

cooling quench bath; pulling said pairs of twisted strands through the bath to effect crystallization and bonding together of the twisted pairs of strands; concurrently stretching and heating the pairs of bonded strands; and then heating the pairs of bonded strands in a relaxed disposition.

7. The process of claim 6 wherein during said extrusion step, said die is rotated at speeds from about 750 to 2,500 rpm.

8. The process of claim 6 wherein said dies are rotated synchronously during said extruding step so as to impart the same number of twists per foot in the molten monofilament strands extruded through said dies.

9. The process of claim 8 wherein said dies are synchronously rotated at speeds from about 750 to 2,500 rpm during said extrusion step.

10. A process for forming a flexible noise attenuating cutting line for use in rotary vegetation trimmers, said process comprising the steps of extruding a molten monofilament strand through a die, rotating the die during said extruding step to twist the strand about a central longitudinal axis, directing said molten strand in a twisted disposition into a cooling quench bath, and pulling said twisted strand through the bath to effect crystallization of the strand.

11. A process for forming a flexible noise attenuating cutting line for use in rotary vegetation trimmers, said process comprising the steps of extruding a molten monofilament strand through a die, rotating the die during said extruding step to twist the strand about a central longitudinal axis, directing said molten strand in a twisted disposition into a cooling quench bath, pulling said twisted strand through the bath to effect crystallization of the strand, concurrently stretching and heating the strand, and then heating the strand in a relaxed disposition.

12. The process of claim 10 wherein during said extrusion step, said die is rotated at speeds from about 750 to 2,500 rpm.

13. The process of claim 11 wherein during said extrusion step, said die is rotated at speeds from about 750 to 2,500 rpm.

14. The process of claim 11 wherein during said extrusion step, said die is rotated at a speed sufficient to impart from approximately 45 to 80 twists per foot in said molten strands and wherein said stretching and heating step comprises pulling said strand from said cooling quench bath at a first velocity, directing said strand from said bath to a heated oven and pulling said strand through said oven at a second velocity, said second velocity being sufficiently greater than said first velocity so as to reduce the number of twists in the strand to about 15 to 25 twists per linear foot.

15. A process for concurrently forming a plurality of lengths of noise attenuating cutting line for use in rotary vegetation trimmers wherein each length of line is comprised of a single twisted monofilament strand, said process comprising the following steps: concurrently extruding a plurality of molten monofilament strands through a corresponding plurality of individual dies; rotating said dies during said extruding step to twist each of said strands about its central longitudinal axis; directing said molten twisted strands into a cooling quench bath; and pulling said twisted strands through the bath to effect crystallization of the strands.

16. The process of claim 15 including the additional steps of concurrently stretching and heating the strands and then heating the strands in a relaxed disposition.

17. The process of claim 15 wherein during said extrusion step, said dies are rotated at speeds from about 750 to 2,500 rpm.

18. The process of claim 15 wherein said dies are synchronously rotated during said extruding step so as to impart the same number of twists per foot in the monofilament strands extruded through said dies.

19. A process for forming a flexible noise attenuating cutting line for use in rotary vegetation trimmers comprising the steps of extruding a molten monofilament strand through a die having an oblatel-y-shaped die hole therein, rotating said die during said extruding step to twist the strand about a central axis, directing said molten strand in a twisted disposition into a cooling quench bath and pulling said twisted strand through the bath to effect crystallization of the strand and form a flexible cutting line having a slightly out-of-round cross-section and being twisted about and along its entire length.

20. A process for forming a flexible noise attenuating cutting line for use in rotary vegetation trimmers comprising the steps of extruding a molten monofilament strand through a die having an oblatel-y-shaped die hole therein, rotating said die during said extruding step to twist the strand about a central axis, directing said molten strand in a twisted disposition into a cooling quench bath and pulling said twisted strand through the bath to effect crystallization of the strand, concurrently stretching and heating the strand, and then heating the strand in a relaxed disposition so as to form a flexible cutting line having a slightly out-of-round cross-section and being twisted about and along its entire length.

21. The process of claim 19 wherein during said extrusion step, said die is rotated at speeds from about 750 to 2,500 rpm.

22. The process of claim 20 wherein during said extrusion step, said die is rotated at speeds from about 750 to 2,500 rpm.

23. The process of claim 20 wherein during said extrusion step, said die is rotated at a speed sufficient to impart from approximately 45 to 80 twists per foot in said molten strands and wherein said stretching and heating step comprises pulling said strand from said cooling quench bath at a first velocity, directing said strand from said bath to a heated oven and pulling said strand through said oven at a second velocity, said second velocity being sufficiently greater than said first velocity so as to reduce the number of twists in the strand to about 15 to 25 twists per linear foot.

24. A process for forming a flexible noise attenuating cutting line for use in rotary vegetation trimmers comprised of one or more twisted monofilament polymer strands, said process comprising the steps of: alternatively extruding a pair of molten monofilament strands in proximate disposition through a die or extruding a single molten monofilament strand through a die; rotating the die during the extruding step either to twist the pair of extruding strands together about a central axis or said single extruding strand about its own central longitudinal axis; directing said one or more molten strands in a twisted disposition into a cooling quench bath; and pulling said one or more twisted strands through the bath to form said line.

25. The process of claim 24 wherein during said extrusion step, said die is rotated at speeds from about 750 to 2,500 rpm.

26. The process of claim 24 including the additional steps of concurrently stretching and heating the line and then heating the line in a relaxed disposition.

27. The process of claim 26 wherein during said extrusion step, said die is rotated at speeds from about 750 to 2,500 rpm.